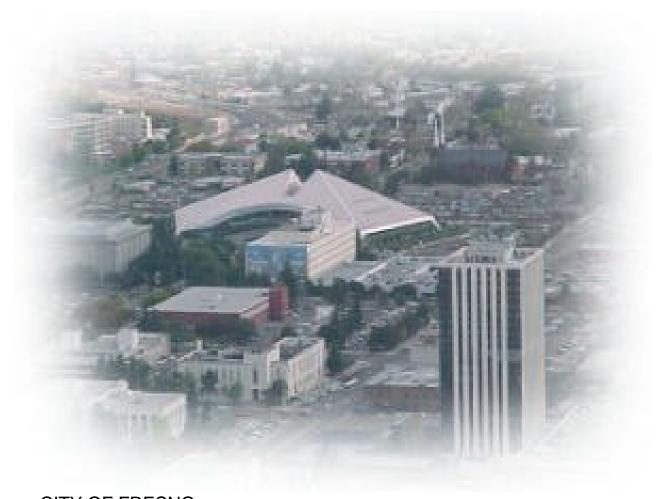




PARKING MANUAL Part I

ADOPTED APRIL 1, 1987



CITY OF FRESNO DEPARTMENT OF PUBLIC WORKS 2600 FRESNO STREET FRESNO, CA. 93721-3623

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PURPOSE

The purpose of this manual is to present the design standards to regulate the development of off-street parking facilities in the City of Fresno.

The design standards contained herein represent minimum requirements necessary for providing adequately developed parking facilities. For the greater part, these have been taken from the Zoning Ordinance and the Standard Specifications of the Public Works Department. In addition, standards have been developed for those special situations which have not been covered by the above two sources.

These standards deal with the method of parking vehicles in an off-street facility. In designing the parking for a given zoning or use, the Zoning Ordinance should be consulted to determine the number of parking spaces required. In addition, the developer is urged to conduct an independent parking study to determine whether these minimum standards are adequate to meet the parking demands of his specific development.

Subsection 5 of Section 12-306-I of the Fresno Municipal Code provides that the standards required in this manual shall be followed.

PARKING DESIGN STANDARDS

1. PARKING SPACE DIMENSIONS

A. Passenger Vehicle Parking Space

There are two basic passenger vehicle parking space dimensions. 9' x 19' standard painted stalls and 8-1/2' x 16-1/2' small car (compact) painted stalls. Any parking lot or structure may install these basic stalls in accordance with criteria defined on page 4, Section 3. Should a property owner wish to reduce the two basic stall sizes by designating exclusive employee parking areas or by constructing continuous concrete curbs the two basic stall sizes may be reduced in size. The eight cases defined below reflect dimensions for standard and small car stalls, stalls with continuous concrete curbs, and stalls designated for exclusive employee parking areas.

Case#	Length	Width	<u>Requirements</u>
1	19'	9'	Standard painted stall.
2	18'	9'	Standard plus continuous concrete curbs.
3	19'	8-1/2'	Standard plus designated exclusive employee
			parking.
4	18'	8-1/2'	Standard plus continuous concrete curbs and
			designated exclusive employee parking.
5	16-1/2'	8-1/2'	Compact painted stall.
6	15-1/2'	8-1/2'	Compact plus continuous concrete curbs.
7	16-1/2'	8'	Compact plus designated exclusive employee
			parking.
8	15-1/2'	8'	Compact plus continuous concrete curbs and
			designated exclusive employee parking.

The conditions that must be met in order to define which basic stall size may be used are stated in Section 3 of this manual, page 4.

B. Truck Loading Spaces

A truck loading space shall be an accessible rectangle having a width of 12 feet and a length of 40 feet. Any overhead obstruction shall have a vertical clearance of 15 feet.

2. DESIGN CRITERIA

A. Driveway Approach Construction Standards

Driveway approaches to private property shall be constructed in conformance with the Standard Specifications of the Public Works Department, particularly Drawings P-1, P-2, P-3, and P-4, as each may apply. Special driveway approach designs not shown in the Standard Specifications may be approved by the Public Works Department for developments for which more than 200 parking spaces are provided.

Driveway approaches on public streets may not be used to furnish circulation from one row of parking to an adjacent row of parking. This traffic circulation must be provided on private property.

B. Backing onto Public Rights-of-Way is Prohibited

Backing a vehicle onto or from public rights-of-way (public alleys excepted) is prohibited in all areas except residential areas located on streets that are classified as local or collector streets. Parking spaces shall be designed and arranged so that movements on the Private property than it is to back onto or from the public it is more convenient for the parking space user to accomplish the necessary backing rights-of-way where such backing is prohibited.

C. <u>Access to Parking Spaces</u>

All parking spaces must have convenient ingress and egress. Access lanes shall be clear and specifically delineated as necessary. (Except in lots with less than 10 parking stalls). All access to individual parking spaces shall be from access lanes (aisles) within the parking facility or from a public alley. Aisle widths are stated on pages 7 through 15 of this manual. Final

approval of aisle widths that are designated as fire lanes shall be by the Fresno Fire Department.

Note: An aisle way which provides direct access to parking stalls shall be a one-way aisle, except for parking stalls which are perpendicular or parallel to the aisle way, and where opposing directions are each provided in separate bays (two W-1 bays, see pages 7 through 15) or an opposing aisle is at least 13 feet wide in addition to W-1.

The parking space shall be designed so that the total process of entering and leaving a parking space shall be accomplished in no more movements than two forward and one reverse. No backing maneuver from a parking stall shall conflict or block the public street driveway approach. All such stalls shall be no closer than 20' to the property line at the driveway approach. With the exception of parking facilities having attendant parking, designing of a parking space so as to require the movement of a vehicle to permit entry or exit from another parking space is not permitted.

All required parking spaces shall be available and accessible at all times for vehicular parking purposes.

D. Traffic Circulation Signing and Markings

Directional signs and arrows and appropriate pavement marking shall be installed to control the direction of traffic flow, when deemed necessary by Public Works Department or the Director of the Development Department.

E. Surface Requirements

All parking areas shall be surfaced in accordance with the Standard Specifications of the Department of Public Works. (See Drawing P-34 for minimum requirements.)

F. Delineation of Parking Spaces

All parking spaces shall be delineated by appropriate fixed curbing, painted lines (a minimum of 4" wide), or other fixed markers. Compact parking stalls or groups of parking stalls

shall be individually signed or marked. Any curb painting used to indicate specific use or time limits of parking spaces shall conform to Chapter 10 of the Municipal Code of the City of Fresno.

G. Physical Barriers

Fixed physical barriers shall be installed to protect public and private property adjacent to the parking facility as well as buildings, landscaping and appurtenances within the development which could be damaged by vehicles using the parking facility. These barriers shall be designed and constructed to facilitate easy cleaning of the parking surface.

A solid masonry wall shall be constructed when required by the zoning ordinance.

When no masonry wall is required, wheel stops in the form of a 6" high concrete curb or other approved fixed barrier, placed a minimum distance of 3' from the property line, or the building to be protected, shall be installed. Landscaping shall be adequately protected to avoid damage by vehicles.

Generally, the fixed physical barrier will be placed 3 feet from the property line, or the building to be protected; however, this distance must be a minimum of 5 feet if the vehicles are permitted to back into the parking stalls.

H. <u>Landscaping</u>

Landscaping and irrigation systems shall be installed where required by the Zoning Ordinance or other condition to zoning.

For those parking facilities where landscaping is not required, the developer is encouraged

to install landscaping to improve the appearance of his premises and of the general neighborhood.

I. <u>Lighting</u>

A lighting system shall be installed on all off-street parking areas. This lighting system

shall be designed to produce a minimum maintained average light level of one-half (2) foot candle on the entire parking facility's horizontal surface, including the parking spaces, the loading spaces and the vehicular and pedestrian circulation areas.

The system shall have a maximum brightness ratio of 6 to 1.

The lighting fixtures shall be hooded and so arranged and controlled as not to cause a nuisance either to highway traffic or adjacent properties. When the parking facility is open to the public during darkness, this lighting system shall be operating sufficiently to produce the required minimum of one-half (2) foot-candle.

All lighting designs are subject to review and approval by the City.

J. <u>Maintenance of Parking Facilities and Equipment</u>

All paving, directional devices and protective equipment, landscaping, and other equipment furnished or required on the parking facility shall be maintained to insure safe pedestrian movement, vehicular operation, adequate protection of adjoining properties, and to present a neat and attractive appearance of the facility.

K. Parking Lot Design

The design of parking lots shall conform to the minimum standards shown on pages 7 through 15.

3. CRITERIA TO DETERMINE BASIC STALL SIZE

- A. Any parking lot or structure may use Case #1 stall dimensions for design.
- B. In order to use Case #2 dimensions a 6" high continuous concrete curb must be used.

 Concrete wheel stops are not an acceptable substitute. The allowable vehicle overhang is 3".
- C. To use Case #3 dimensions 90% of the parking area must be designated for the exclusive use of employees. The 10% of the parking area closest to the main building entrance must be reserved for customer/visitor parking. This 10% must be designed to Case #1 or #2 standards.

- D. Case #4 dimensions may be used as stated in Case #3 if a 6" high continuous concrete curb is constructed. Concrete wheel stops are not an acceptable substitute. The allowable front vehicle overhang is 3'.
- E. Case #5 reflects the basic size for small car spaces in lots or structures. 8-1/2' x 16-1/2' is the basic dimension. Up to twenty-five percent (25%) of the parking spaces in any given parking lot in the commercial, industrial, manufacturing, school, or hospital zone districts may be designated for small cars. Other <u>long term</u> parking areas may also be considered by the director. Residential uses may <u>not</u> use small car standards Cases #5 through #8. Before any small car standards (Cases #5 through #8) are allowed 10 standard size stalls (Cases #1 through #4) must be provided. These 10 standard size stalls must be located on the site closest to the main building entrance. 50% of the standard size stalls excluding the required 10' minimum and the required handicap stalls must be located on the site closest to the main entrance (up to 25 spaces). On lots exceeding 70 stalls 25 standard size and handicap stalls shall be located on the site closest to the main entrance.
- F. Case #6 dimensions may be used with the same criteria stated in Case #5 with the addition of a 6" high continuous concrete curb. Concrete wheel stops are not an acceptable substitute. The allowable front vehicle overhang is 2'.
- G. Case #7 dimensions may be used if 90% of the parking area is designed for the exclusive use of employees. The 10% of parking area closest to the main building entrance must be reserved for customer/visitor parking. This 10% must be designed to Case #1 or #2 standards.
- H. Case #8 dimensions may be used as stated in Case #7 if a 6" high continuous concrete curb is constructed. Concrete wheel stops are not an acceptable substitute. The allowable front vehicle overhang is 2'.
 - Access to all spaces shall conform to the parameters outlined in Section 2-C of this manual. If a common space is to be provided serving both small cars and standard size cars, the minimum dimensions for standard cars shall apply.

4. HANDICAP PARKING STALLS

Handicap Parking Stalls shall be provided as required in the zoning ordinance. The design of such stalls shall be in accordance with dimensions indicated on page 19.

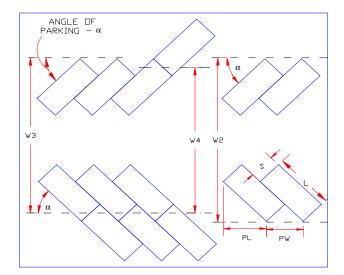
5. TABLE OF DESIGN DIMENSION FOR VARIOUS PARKING ANGLES

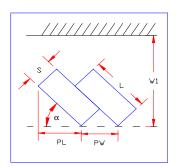
(See Pages 8 – 16)

TABLE OF DESIGN DIMENSION FOR VARIOUS PARKING ANGLES

CASE - 1

ANGLE OF	PAR	KING E	BY DIM	ENSIONS	AISLE	DESIGN LAYOUT	DIMENSIONS
PARKING	W-1	W-2	W-3	3 W -4	WIDTH	P.L.	P.W.
30.0	29.5	46.5	42.5	39.0	12.0	29.9	18.0
35.0	30.5	48.5	45.0	41.0	12.0	26.1	15.7
40.0	31.0	50.0	47.0	43.5	12.0	22.8	14.0
45.0	32.0	51.5	48.5	45.0	12.0	19.8	12.7
50.0	33.5	53.5	51.0	48.0	13.0	17.1	11.8
55.0	33.5	54.5	52.0	49.5	13.0	14.5	11.0
60.0	35.0	56.0	53.5	51.5	14.0	12.1	10.4
65.0	37.0	58.0	56.0	54.0	16.0	9.8	9.9
70.0	39.0	60.0	58.5	57.0	18.0	7.6	9.6
75.0	40.5	61.5	60.0	59.0	20.0	5.5	9.3
80.0	43.5	63.5	63.0	62.0	23.0	3.6	9.1
85.0	44.5	64.5	64.0	63.5	25.0	1.7	9.0
90.0	47.0	65.0	65.0	65.0	27.0	0.0	9.0



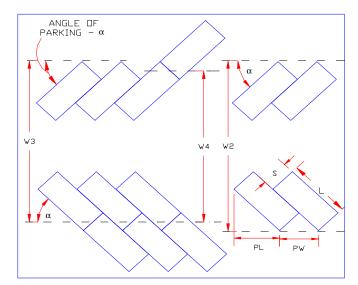


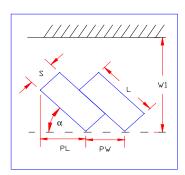
S = 9.0 ft.L = 19.0 ft.

TABLE OF DESIGN DIMENSIONS FOR VARIOUS PARKING ANGLES

CASE - 2

ANGLE OF	PAR	KING B	Y DIMI	ENSIONS	AISLE	DESIGN LAYOU	T DIMENSION
PARKING	W-1	W-2	W-3	W-4	WIDTH	P.L	P.W.
30.0	29.0	45.5	41.5	38.0	12.0	29.1	18.0
35.0	29.5	47.5	43.5	40.0	12.0	25.3	15.7
40.0	30.5	49.0	45.5	42.0	12.0	22.0	14.0
45.0	31.0	50.0	47.0	44.0	12.0	19.1	12.7
50.0	32.5	52.0	49.5	46.5	13.0	16.4	11.8
55.0	33.0	53.0	50.0	47.5	13.0	13.9	11.0
60.0	34.0	54.0	52.0	49.5	14.0	11.6	10.4
65.0	36.0	56.0	54.5	52.5	16.0	9.4	9.9
70.0	38.0	58.0	56.5	55.0	18.0	7.3	9.6
75.0	39.5	59.5	58.5	57.0	20.0	5.3	9.3
80.0	42.5	61.5	61.0	60.0	23.0	3.4	9.1
85.0	43.5	62.5	62.0	61.5	25.0	1.6	9.0
90.0	46.0	63.0	63.0	63.0	27.0	0.0	9.0

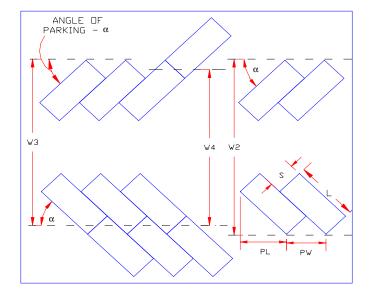


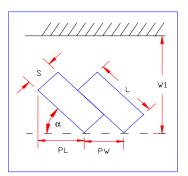


S = 9.0 ft.L = 18.0 ft.

TABLE OF DESIGN DIMENSIONS FOR VARIOUS PARKING ANGLES CASE -3

ANGLE OF				ENSIONS	AISLE	DESIGN LAYOUT	
PARKING	W-1	W-2	W-3	W-4	WIDTH	P.L	PW
30.0	29.0	45.5	42.0	38.5	12.0	29.2	17.0
35.0	30.0	47.5	44.0	41.0	12.0	25.5	14.8
40.0	30.5	49.5	46.0	43.0	12.0	22.3	13.2
45.0	31.5	51.0	48.0	45.0	12.0	19.5	12.0
50.0	33.0	53.0	50.5	47.5	13.0	16.8	11.1
55.0	33.5	54.0	51.5	49.0	13.0	14.3	10.4
60.0	34.5	55.5	53.5	51.0	14.0	12.0	9.8
65.0	37.0	57.5	56.0	54.0	16.0	9.7	9.4
70.0	39.0	59.5	58.0	56.5	18.0	7.6	9.1
75.0	40.5	61.0	60.0	59.0	20.0	5.5	8.8
80.0	43.0	63.5	62.5	62.0	23.0	3.6	8.6
85.0	44.5	64.5	64.0	63.5	25.0	1.7	8.5
90.0	47.0	65.0	65.0	65.0	27.0	0.0	8.5





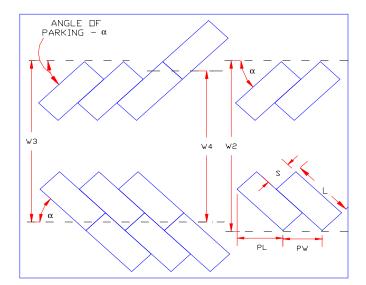
S = 8.5 ft.L = 19.0 ft.

TABLE OF DESIGN DIMENSIONS FOR VARIOUS PARKING ANGLES

CASE - 4

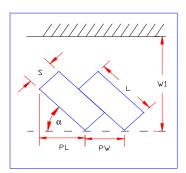
ANGLE OF PARKING	PARKING BY W-1 W-2	Y DIMENSIONS W-3 W-4	AISLE WIDTH	DESIGN LAYOU P.L.	UT DIMENSION P.W.
30.0		41.0 37.5	12.0	28.3	17.0
35.0	29.5 46.5	43.0 39.5	12.0	24.7	14.8
40.0	30.0 48.0	45.0 41.5	12.0	21.6	13.2
45.0	30.5 49.5	46.5 43.5	12.0	18.7	12.0
50.0	32.5 51.5	49.0 46.0	13.0	16.2	11. 1
55.0	32.5 52.0	50.0 47.5	13.0	13.7	10.4
60.0	34.0 53.5	51.5 49.5	14.0	11.5	9.8
65.0	36.0 56.0	54.0 52.0	16.0	9.3	9.4
70.0	38.0 57.5	56.0 54.5	18.0	7.2	9.1
75.0	39.5 59.0	58.0 57.0	20.0	5.3	8.8
80.0	42.0 61.5	60.5 60.0	23.0	3.4	8.6
85.0	43.5 62.5	62.0 61.5	25.0	1.6	8.5

27.0



46.0 63.0 63.0 63.0

90.0



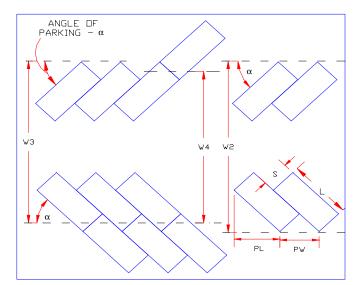
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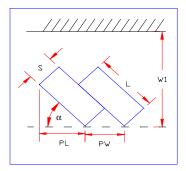
8.5

S = 8.5 ft.L = 18.0 ft.

TABLE OF DESIGN DIMENSIONS FOR VARIOUS PARKING ANGLES
CASE -5

ANGLE OF				ENSIONS	AISLE	DESIGN LAYOU	
PARKING	W-1	W-2	W-3	8 W-4	WIDTH	P.L.	P.W.
30.0	27.5	43.0	39.5	36.0	12.0	27.0	17.0
35.0	28.5	45.0	41.5	38.0	12.0	23.5	14.8
40.0	29.0	46.0	43.0	39.5	12.0	20.4	13.2
45.0	29.5	47.5	44.5	41.5	12.0	17.7	12.0
50.0	31.0	49.0	46.5	43.5	13.0	15.2	11.1
55.0	31.5	50.0	47.5	45.0	13.0	12.9	10.4
60.0	32.5	51.0	49.0	47.0	14.0	10.7	9.8
65.0	34.5	53.0	51.5	49.5	16.0	8.7	9.4
70.0	36.5	55.0	53.5	52.0	18.0	6.7	9.1
75.0	38.0	56.5	55.0	54.0	20.0	4.9	8.8
80.0	40.5	58.5	57.5	57.0	23.0	3.1	8.6
85.0	42.0	59.5	59.0	58.5	25.0	1.5	8.5
90.0	44.5	60.0	60.0	60.0	27.0	0.0	8.5



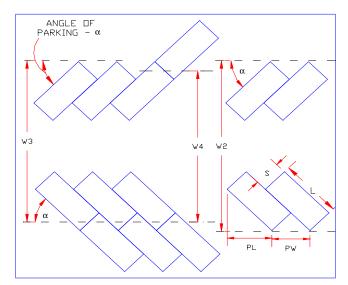


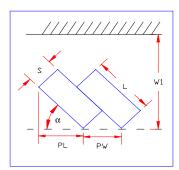
S = 8.5 ft.L = 16.5 ft.

TABLE OF DESIGN DIMENSIONS FOR VARIOUS PARKING ANGLES

CASE - 6

ANGLE OF	PARKING BY DIMENSIONS				AISLE	DESIGN LAYOUT DIMENSION	
PARKING	W-1	W-2	W-3	W-4	WIDTH	P.L.	P.W.
30.0	27.0	42.0	38.5	35.0	12.0	26.2	17.0
35.0	28.0	43.5	40.0	36.5	12.0	22.6	14.8
40.0	28.5	45.0	41.5	38.5	12.0	19.6	13.2
45.0	29.0	46.0	43.0	40.0	12.0	17.0	12.0
50.0	30.5	47.5	45.0	42.0	13.0	14.6	11.1
55.0	30.5	48.0	45.5	43.5	13 0	12.3	10.4
60.0	31.5	49.5	47.0	45.0	14.0	10.2	9.8
65.0	33.5	51.5	49.5	47.5	16.0	8.2	9.4
70.0	35.5	53.0	51.5	50.0	18.0	6.4	9.1
75.0	37.0	54.5	53.0	52.0	20.0	4.6	8.8
80.0	39.5	56.5	55.5	55.0	23.0	3.0	8.6
85.0	41.0	57.5	57.0	56.5	25.0	1.4	8.5
90.0	43.5	58.0	58.0	58.0	27.0	0.0	8.5



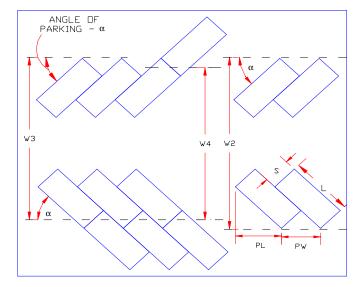


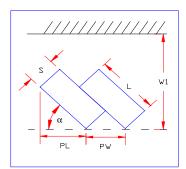
S = 8.5 ft.L = 15.5 ft.

TABLE OF DESIGN DIMENSIONS FOR VARIOUS PARKING ANGLES

CASE - 7

ANGLE OF	PARK	XING BY	/ DIME	NSIONS	AISLE	DESIGN LAYO	UT DDENS10N
PARKING	W-1	W- 2	W-3	W-4	WIDTH	P.L.	P.W.
30.0	27.0	42.5	39.0	35.5	12.0	26.3	16.0
35.0	28.0	44.0	41.0	37.5	12.0	22.9	14.0
40.0	28.5	45.5	42.5	39.5	12.0	19.9	12.5
45.0	29.5	46.5	44.0	41.0	12.0	17.3	11.3
50.0	31.0	48.5	46.0	43.5	13.0	14.9	10.4
55.0	31.0	49.0	47.0	44.5	13.0	12.7	9.8
60.0	32.5	50.5	48.5	46.5	14.0	10.6	9.2
65.0	34.5	52.5	51.0	49.5	16.0	8.6	8.8
70.0	36.0	54.5	53.0	51.5	18.0	6.6	8.5
75.0	38.0	56.0	55.0	54.0	20.0	4.8	8.3
80.0	40.5	58.5	57.5	57.0	23.0	3.1	8.1
85.0	42.0	59.5	59.0	58.5	25.0	1.5	8.0
90.0	44.5	60.0	60.0	60.0	27.0	0.0	8.0

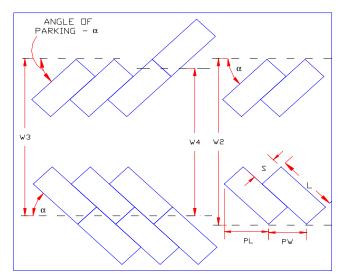


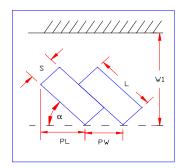


S = 8.0 ft.L = 16.5 ft.

TABLE OF DESIGN DIMENSIONS FOR VARIOUS PARKING ANGLES CASE - 8

ANGLE OF	PARI	KING B	Y DIMI	ENSION	AISLE	DESIGN LAYOUT DIMENSION	
PARKING	W-1	W-2	W-3	W-4	WIDTH	P.L.	P.W.
30.0	26.5	41.5	38.0	34.5	12.0	25.4	16.0
35.0	27.5	43.0	39.5	36.5	12.0	22.1	14.0
40.0	28.0	44.0	41.0	38.0	12.0	19.2	12.5
45.0	28.5	45.0	42.5	39.5	12.0	16.6	11.3
50.0	30.0	47.0	44.5	42.0	13.0	14.3	10.4
55.0	30.5	47.5	45.5	43.0	13.0	12.1	9.8
60.0	31.5	49.0	47.0	45.0	14.0	10.1	9.2
65.0	33.5	51.0	49.0	47.5	16.0	8.1	8.8
70.0	35.5	52.5	51.0	50.0	18.0	6.3	8.5
75.0	37.0	54.0	53.0	52.0	20.0	4.6	8.3
80.0	39.5	56.5	55.5	55.0	23.0	2.9	8.1
85.0	41.0	57.5	57.0	56.5	25.0	1.4	8.0
90.0	43.5	58.0	58.0	58.0	27.0	0.0	8.0

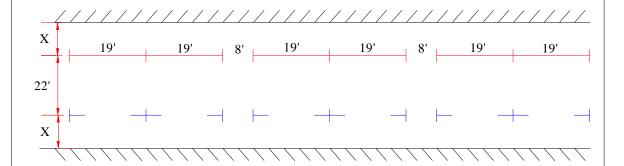


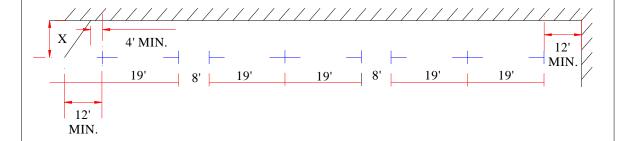


$$S = 8.0 \text{ ft.}$$

L = 15.5 ft.

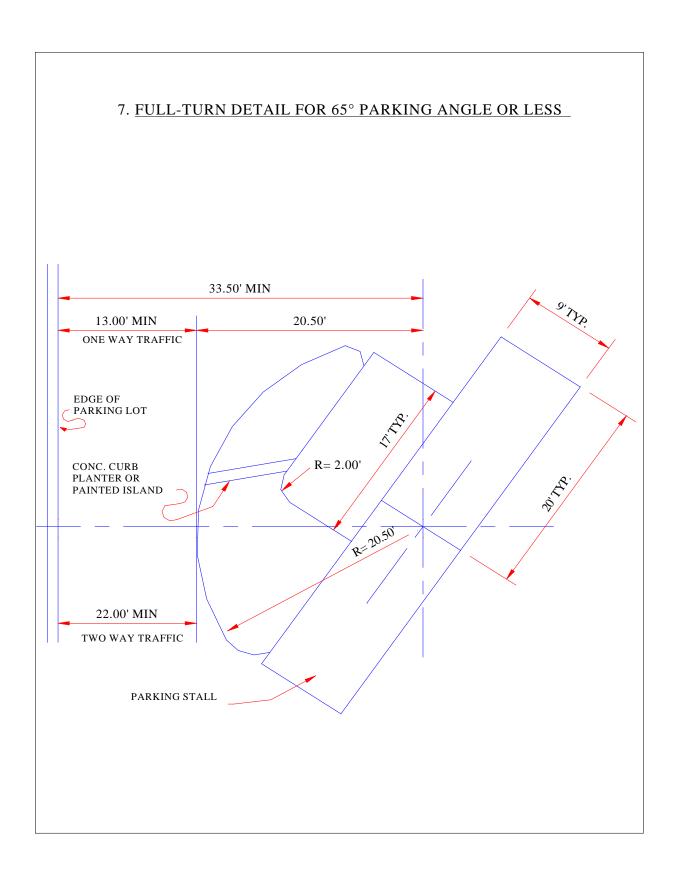


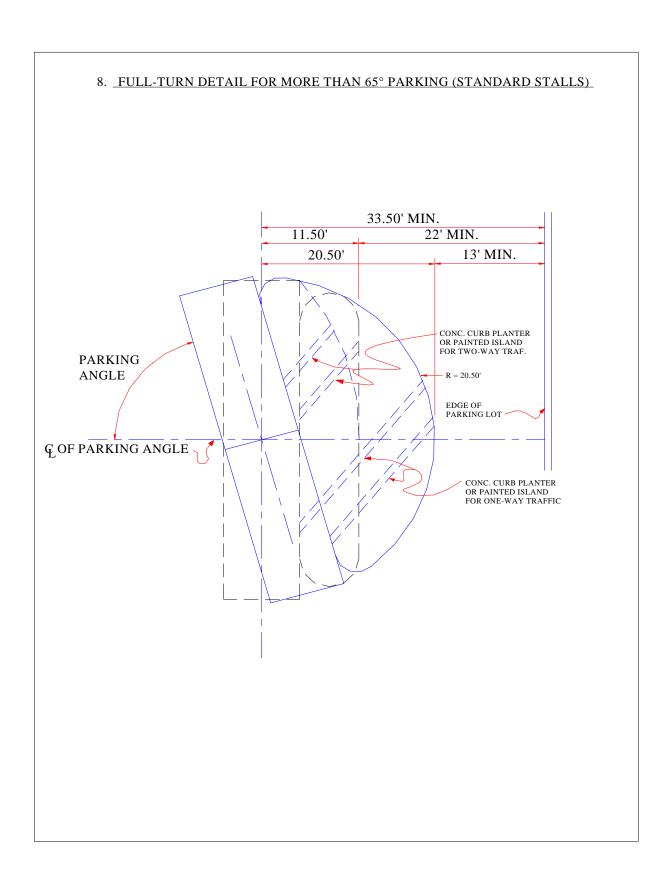




- $\rm X=10^{\circ}$ IF ADJACENT TO AN OBSTRUCTION OVER 8" HIGH SUCH AS A WALL OR FENCE.
- X=8' IF ADJACENT TO A SIDEWALK OR SIMILAR BARRIER LESS THAN 8" HIGH AND AT LEAST 2' WIDE.

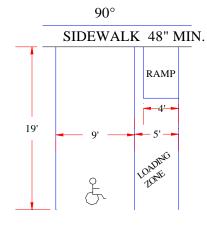
NOTE: MINIMUM ONE-WAY AISLE - 13' MINIMUM TWO-WAY AISLE - 22'

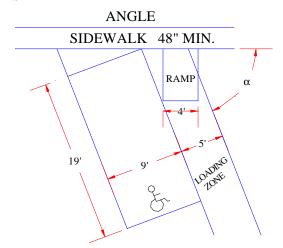




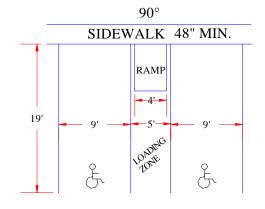
9. HANDICAP PARKING STALLS - DESIGN DIMENSIONS.

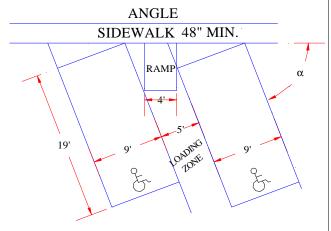
SINGLE STALL





DOUBLE STALLS





NOTES:

- 1. DIMENSIONS SHOWN ARE THE ALLOWED MINIMUMS.
- 2. ANGLE " α " IS VARIABLE. ALLOWED ANGLES ARE 30°, 40°, 45°, 50°, 60°, 75°
- 3. THE SLOPE OF THE RAMP SHALL NOT EXCEED A 1 TO 12 RATIO.
- 4. 4" WIDE STRIPES IN THE LOADING ZONE SHALL BE 3' ON CENTER.
- 5. THE RAMP LOCATION MAY BE VARIED.
- 6. SIDEWALKS SHALL HAVE A MINIMUM CLEAR WIDTH OF 48".

